

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-248198

(43)Date of publication of application : 27.09.1996

(51)Int.Cl.

G21K 3/00
C30B 33/08
H01L 21/306
// G21K 7/00

(21)Application number : 07-052976

(71)Applicant : NIKON CORP

(22)Date of filing : 13.03.1995

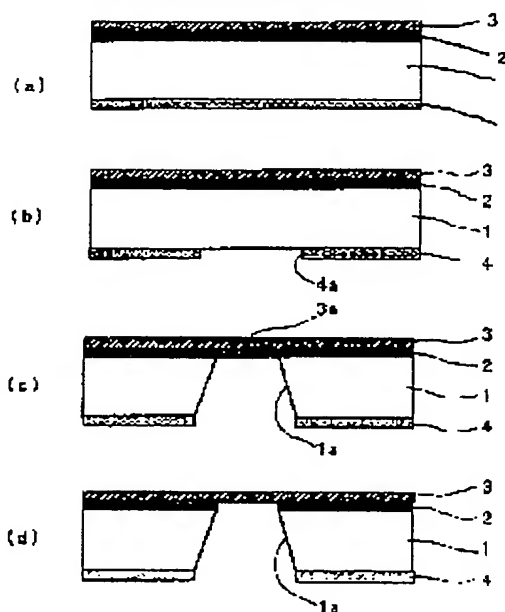
(72)Inventor : KATAKURA NORIHIRO

(54) FORMATION OF SILICONOXIDE MEMBRANE

(57)Abstract:

PURPOSE: To stably form membrane by forming an etching prevention film and SiO₂ film on silicone base upper surface, etching hole of pattern shape from the lower surface to the prevention film, and removing the part facing to the hole of the prevention film.

CONSTITUTION: On a silicon base 1 upper surface, Au film 2 is formed by sputtering and SiO₂ film 3 is formed on it. Besides, SiN film 4 is formed on the lower surface of the base 1, and a resist pattern corresponding to a membrane shape is formed with photolithography, which is etched with CF₄+O₂ gas to form a pattern 4a. Next, the film 4 is etched with KOH solution with masking of the film 4. The membrane part 3a of the film 3 is then shielded from KOH solution. Next, film 2 of the membrane part 3a is removed by electrolysis. With this method the process is simplified and high quality membrane part 3a can be formed.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

(51)Int.Cl. ⁴	特許庁	特許庁	特許庁	特許庁
G 2 1 K 3 / 0 0	特許庁	特許庁	特許庁	特許庁
C 3 0 B 3 3 / 0 8	特許庁	特許庁	特許庁	特許庁
H 0 1 L 2 1 / 3 0 6	特許庁	特許庁	特許庁	特許庁
# G 2 1 K 7 / 0 0	特許庁	特許庁	特許庁	特許庁

(71)出願人	000004112	株式会社ニコン
(72)発明者	片倉 則浩	東京都千代田区丸の内3丁目2番3号
(74)代理人	永井 隆紀	東京都千代田区丸の内3丁目2番3号 株式会社ニコン内

(54)【発明の名称】
酸化シリコンメンブレンの作製方法

(57)【要約】
【目的】 S i O₂膜にエッチングによる凹部を与えることなく安定して S i O₂メンブレンを作製する方法を提供する。
【構成】 シリコン基板1の上面に導電性のエッチングストッパー膜2を形成する工程と、エッチングストッパー膜2の上面に酸化シリコン膜3を形成する工程と、シリコン基板1の下面にマスク4を形成し、マスク4に所定の形状のパターン4aを形成する工程と、シリコン基板1に下面からウェットエッチングによりパターン4aに即した形状の孔1aをエッチングストッパー膜2まで形成する工程と、エッチングストッパー膜2のうち孔1aと面する領域を電気分解により除去する工程とを有することを特徴とする S i O₂メンブレンの作製方法。

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

(11)

(12)

(13)

(14)

(15)

(16)

(17)

(18)

(19)

(20)

(21)

(22)

(23)

(24)

(25)

(26)

(27)

(28)

(29)

(30)

(31)

(32)

(33)

(34)

(35)

(36)

(37)

(38)

(39)

(40)

(41)

(42)

(43)

(44)

(45)

(46)

(47)

(48)

(49)

(50)

(51)

(52)

(53)

(54)

(55)

(56)

(57)

(58)

(59)

(60)

(61)

(62)

(63)

(64)

(65)

(66)

(67)

(68)

(69)

(70)

(71)

(72)

(73)

(74)

(75)

(76)

(77)

(78)

(79)

(80)

(81)

(82)

(83)

(84)

(85)

(86)

(87)

(88)

(89)

(90)

(91)

(92)

(93)

(94)

(95)

(96)

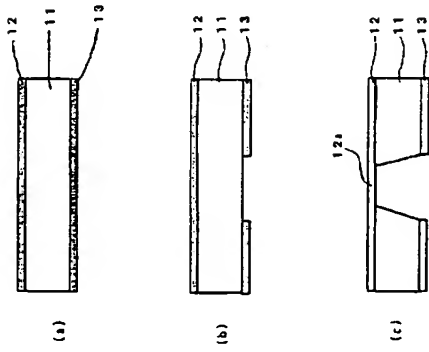
(97)

(98)

(99)

(100)

[図3]



[図4]

